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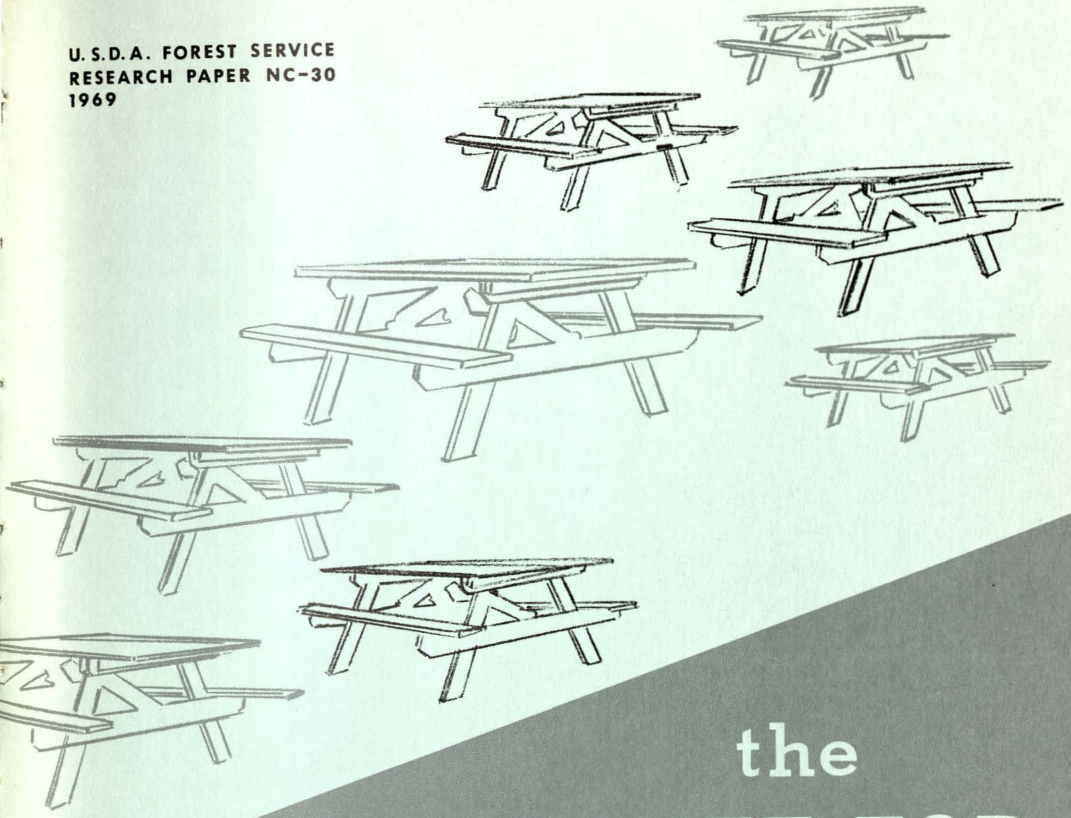

the MARKET FOR WOOD PICNIC STRUCTURES

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The Market for Wood Picnic Structures

Jerry A. Sesco

Outdoor recreation is increasing in the United States. There are no indications of a slowdown; by the year 2000 our population should double and the demand for recreation should triple.[1]

This increasing demand has brought about extensive plans for the development, expansion, and rehabilitation of outdoor recreation areas and facilities (fig. 1). Long-range plans call for increasing picnic facilities nearly threefold and camping facilities about ninefold.[2] For example, National Forests alone will develop or rehabilitate 30,000 recreation sites containing 300,000 family camp and picnic units by 1972.[3]

FIGURE 1. — Many new structures are being constructed on outdoor recreation areas. (F-518740)

[1] *Outdoor Recreation Resources Review Commission. Outdoor recreation for America. p. 25 Washington: Government Printing Office. 1962.*

[2] Ibid., *p. 53.*

[3] *U.S.D.A. Forest Service. Development program for the National Forests. U.S. Dep. Agr. Misc. Pub. 896, p. 13. Washington: Government Printing Office. 1961.*

Some further evidence of the recent growth of the overall market for outdoor recreation is found in Bureau of Census data: between 1954 and 1963, the value of shipments of wood and metal porch, lawn, and outdoor furniture increased from $68.4 million annually to $118.1 million annually — an increase of 73 percent.[4]

Manufacturers of quality wood products can profit by the growth in demand for outdoor recreation. They will be in a better position to increase their markets, however, if they know how purchases are made, who the purchasers are, and where they are located.

This report describes the public market for picnic structures, the relative importance of the various market segments, and the current and expected trends in demand for six north-central States. Picnic structures include picnic tables, shelters, benches, and sanitary facilities.

STUDY METHODS

Definitions

For the purpose of this report, an outdoor recreation area is defined as a publicly owned and managed land and water area used for recreational purposes. Examples are public forests, parks, roadside areas, and wildlife refuges. Privately owned and managed recreation areas were not included in the study.

[4] *U.S. Bureau of the Census. Census of Manufacturers: 1963. Volume II, Industry Statistics, Part 1, Major Groups 20 to 28. p. 25A-19. Washington: Government Printing Office. 1966.*

The jurisdiction of the recreation agencies included in the study are self-explanatory except perhaps for "municipal" and "metropolitan" park agencies. Municipal recreation agencies usually administer recreation areas within a city's limits. Metropolitan recreation agencies, on the other hand, administer areas in a larger territory that may include one or more counties and municipalities.

The Study Area

The States of Illinois, Indiana, Iowa, Kentucky, Missouri, and Ohio were selected for the study. In 1960 these States had 19 percent of the Nation's population and about the same percentage of the Nation's public recreation acreage. Due to its expected economic growth in the next few decades, the study area offers a large potential market for outdoor recreation structures.

The Sample

In 1965 questionnaires were sent to the U.S.D.A. Forest Service; U.S.D.I. Fish and Wildlife Service; U.S. Army Corps of Engineers; State park, forestry, highway, and fish and game headquarters; all municipalities of more than 25,000 population; and about 12 percent of those municipalities with populations from 2,500 to 25,000.

NUMBER AND TYPE OF OUTDOOR RECREATION AREAS

The market for recreation area structures is indicated by the location, number, and types of recreation areas that exist.

Most of the public recreation areas in the six States are in the southern half of the region. Federally owned areas, amounting to over 3 million acres or about 68 percent of the total, are comprised primarily of land administered by the Forest Service and the Corps of Engineers. Missouri has the largest amount of Federal recreation acreage with more than 1½ million acres. Camping, picnicking, hunting, fishing, swimming, and boating facilities are available on many of these acres.

There are 276 State parks in the six states containing more than 310,000 acres. These parks range from 10 acres to 15,000 acres in size and are more evenly distributed throughout the six States than Federally owned areas. Iowa has the largest number of parks with 77, while Ohio has the greatest State park area with 86,000 acres.

State agencies administer about 850,000 acres that are available for fishing, hunting, and camping. State-owned forest land is mostly in the southern half of the six States; fishing and hunting areas are more evenly distributed. Missouri has the largest acreage in State-owned fish, game, and forest areas.

State highway agencies administer about 1,350 roadside areas that contain more than 2,000 acres. Most of these areas, which average 1 to 2 acres in size, have one or two picnic tables; many of the larger areas have toilet facilities. Illinois, Ohio, and Kentucky account for most of the roadside areas in the six States.

There are many historic sites, monuments, shrines, camps, beaches, and public access areas administered by State agencies in the study area. Most of these areas contain less than 10 acres each.

In addition to Federal and State areas, there are about 248,000 acres of city, county, and metropolitan park land in the six States. Ohio and Illinois account for more than half the total acreage. Generally, these areas receive more intensive use than Federal and State recreation land.

RECREATION STRUCTURES

There are many types and designs of outdoor recreation structures in the study area. This report considers the types most frequently found on picnic and camping grounds. Structures discussed include picnic tables, shelters, benches, toilet facilities, and information and concession buildings.

Picnic Tables

More than 200,000 picnic tables were in use on all publicly owned recreation areas in the six States.

Most of the picnic tables reported by Federal agencies were on areas owned by the Corps of Engineers, followed by the Forest Service, Fish and Wildlife Service, and the National Park Service. Most of the picnic tables on State land were in the State parks, followed by highway roadside areas, State forests, and State fishing and hunting areas.

Of the total number of tables reported, county, metropolitan, and municipal recreation areas collectively accounted for 60 percent. Most of the areas administered by these agencies are relatively small compared to State and Federal areas, but they are generally subject to more intensive use.

Type of Construction

Based on construction materials used, there are four major types of picnic tables: all wood, all concrete, combination wood and concrete, and combination wood and metal. Less frequently used types are: all metal, combination fiberglass and metal, and combination metal and fiberglass overlaid wood.

Tables made completely of wood were the most common type in the study area, accounting for 162,000 or 81 percent of the tables reported by respondents (fig. 2). Combination wood and metal tables ranked second with 15 percent of the total. Concrete and "other" types accounted for about 3 percent of the total. Combination wood and concrete tables made up less than 1 percent of the total.

Wood Use

The volume of lumber used in a single picnic table ranges from around 40 net board feet for a 6-foot combination wood and metal table to about 100 net board feet for an all-wood table. However, in the aggregate, picnic tables require millions of board feet of lumber. For instance, the estimated 162,000 all-wood tables in the study area required 16.2 million board feet of lumber.

FIGURE 2. — All-wood tables were the most common type found. (F-518741)

It is apparent that wood is the most important component in picnic tables, being used to some extent in about 95 percent of the tables reported.

Softwoods, primarily Douglas fir, were most often used in picnic tables; however, a few tables were constructed of hardwood lumber. Where both types of lumber were used in the same table, hardwood lumber was most often used in the legs and braces and softwood lumber in the tops and seats.

Several different sizes of picnic tables were used, but some sizes were more common than others. The most common table lengths were 6, 7, and 8 feet. The most common table top widths were 30, 33, and 36 inches. Most of the tables used 2-inch-thick lumber ranging from 4 to 12 inches in width, depending on the table design.

Service Life and Reasons for Repair or Replacement

The service life and need for repair of picnic tables vary greatly and depend primarily upon frequency and intensity of use, frequency and methods of maintenance, type of material used, exposure to weather, preservative treatment, and protective finish.

Estimates of serviceable life averaged 10 years for wood tables, 13 years for wood and metal tables, 15 years for wood and concrete tables, and 22 years for concrete tables. Two respondents who used combination wood and metal tables with the top and seats overlaid with fiberglass estimated their service life to be 12 and 20 years respectively.

Decay and vandalism were the chief causes for repair and replacement of picnic tables (fig. 3). Breakage as a result of normal use ranked second and theft ranked third. Most decay occurred in the tops and seats, which were continuously exposed to the weather, and in the base of table legs in continuous contact with the soil. Decay also occurred where table components were fastened together. It was not determined how many of the tables were treated with a wood preservative; however, the numerous reports of decay indicate that the use of preservative-treated wood was not prevalent. A survey of picnic facilities by the American Institute of Park Executives in 1960 found that an average of 41 percent of the picnic tables reported were treated with wood preservatives.[5] Decay could virtually be eliminated if agencies would pay $1 to $2 more per table for preservative-treated wood.

Vandalism ranged from carving on table tops to using the table for firewood. Theft was not a major problem. It has been reduced by the use of heavier tables and by anchoring tables in place.

Prices

The price of a picnic table will vary depending on several factors such as the source of supply, purchasing method used, number of tables purchased, construction material, and size and design of table.

[5] *Bowen, Gordon S. Picnic facilities survey. Amer. Inst. Park Executives Bull. 5, p. 10. Wheeling, West Virginia: American Institute of Park Executives. 1961.*

FIGURE 3. — Decay in picnic tables seat. (F-518743)

All prices quoted by commercial manufacturers were f.o.b. factory for tables shipped unassembled. Many manufacturers give quantity discounts ranging from 10 percent to 30 percent depending on the quantity purchased. The prices of 6- to 8-foot wood tables ranged from about $20 to $43 f.o.b. factory. Prices of 6- to 8-foot wood-and-metal tables ranged from about $26 to $100. The price for an 8-foot wood-and-metal table with the top and seats overlaid with fiberglass was $80. An 8-foot table with top and seats consisting completely of fiberglass was priced at $110.

Shelters

Shelters are desirable structures in picnic areas. They provide picnickers with shade, protection from rain, and add to the general usefulness and enjoyment of picnic areas.

A total of 1,578 shelters was reported. About 80 percent of these were group shelters and the remainder were single-table shelters.

County, metropolitan, and municipal agencies accounted for the largest number of picnic shelters. Among the Federal agencies, the Corps of Engineers accounted for most of the

shelters, followed by the Forest Service, Fish and Wildlife Service, and the National Park Service. On State-owned land, most of the shelters were found in State parks and State highway areas followed by State forest areas and State fish and game areas.

Picnic shelters may be grouped into five general types, based on major construction materials: wood, metal, masonry or stone, wood and metal, wood and masonry or stone, and "other."

About half the 1,578 shelters reported were constructed primarily of wood (fig. 4). Shelters made from wood in combination with concrete, stone, or brick ranked second with 23 percent of the total. Concrete, stone, or brick construction accounted for 20 percent of the total while metal, wood and metal, and "other" types made up less than 10 percent.

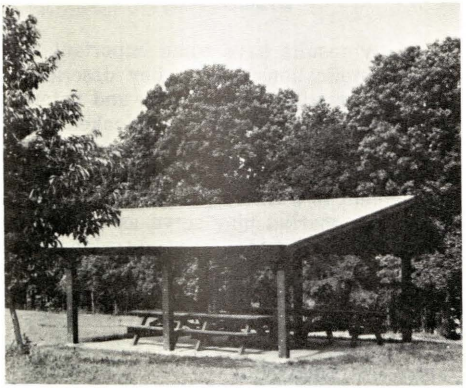

FIGURE 4. — A group picnic shelter made of wood. (F-518742)

The size of picnic shelters varied considerably. Single-table shelters averaged about 100 square feet of floor area each. However, group shelters ranged from around 300 square feet of floor area to 2,000 square feet of floor area. The amount of lumber required to build a shelter depends on the type and size of the shelter. A 20- by 30-foot rigid-frame design wood shelter requires from 1,800 to 2,000 board feet of lumber. Prices quoted for both wood and metal shelters ranged from about $2.00 to $2.20 per square foot f.o.b. factory.

Sanitary Facilities

Sanitary facilities on recreation areas consist of comfort stations, showers, laundry rooms, and dressing rooms. The most important type, to be discussed here, are comfort stations. They are essential for the continued use of any recreation area.

A total of 4,115 comfort stations were reported on recreation areas in the six States. About 55 percent of these comfort stations had 100 or more square feet of floor space each. The remainder contained less than 100 square feet each. Most of the larger comfort stations were on State park, county and metropolitan, municipal, and Corps of Engineer areas while most of the small comfort stations were found on Forest Service and county and metropolitan areas. Metropolitan and municipal areas had the largest number of comfort stations.

A variety of construction materials was used in comfort stations; however, wood predominated. About 45 percent of the facilities reported had wood as the major construction material. Twenty-four percent were of masonry or stone construction and 23 percent were a combination of wood and masonry, stone, or brick. Because they must be completely enclosed, these structures require a larger volume of lumber per square foot of floor area than do shelters.

Other Structures

Other structures often found on or near picnic areas are concession structures and benches.

Most of the concession structures were found on municipal recreation areas and on State parks. In some instances, these structures also served as museums and information centers. The major construction materials for these structures were wood, masonry, and stone, or some combination of these.

Benches ranked second to picnic tables in total number with over 38,000 reported. About 91 percent of these were found on municipal recreation areas and most were on recreation areas in cities with a population over 100,000. About 20 percent of the benches were constructed of wood only while 71 percent were a combination of wood and metal or concrete.

SUPPLIERS AND PURCHASING METHODS

Public recreation agencies may purchase their picnic ground equipment, make their own, or both. About 57 percent of the picnic tables reported were made by the agencies themselves. Fifteen percent were purchased from commercial manufacturers and another 15 percent from private contractors. The remainder were purchased from prison industries and other sources.

Agencies that make their own equipment obtain materials through local retail lumberyards. In some cases, these agencies purchase metal table frames from commercial manufacturers and construct the wooden tops and seats themselves. More than half the tables reported by the U.S.D.A. Forest Service, State park, municipal, and county and metropolitan agencies were made by agency personnel. County and metropolitan agencies made about 90 percent of their own tables.

It is not known how many commercial picnic table manufacturers there are in the United States. However, Thomas' Register of American Manufacturers lists 32 major manufacturers of picnic ground equipment. Most of these are located in the heavily populated, upper midwestern and northeastern United States. In addition to these firms, several furniture and playground equipment manufacturers make picnic ground equipment. Municipal and State agencies were the major users of commercially manufactured picnic tables.

State agencies utilized prison industries as a source of supply more than other agencies. State agencies also relied heavily on private contractors as a source.

Recreation agencies that purchase finished picnic ground equipment usually do so by means of competitive bids from commercial manufacturing firms or from private contractors. The type and design of equipment desired determine which manufacturer, or dealer, or contractor, will be invited to bid. Agencies rely on catalogs and advertising brochures in selecting prospective suppliers.

Some agencies that make their own equipment also purchase material on the basis of competitive bids, especially when the total value of the purchase is high.

DISCUSSION

Study results have some important marketing implications. First, they describe an important market that existing and potential wood industries may have overlooked in the past. The sale of materials and equipment to the recreation industry could be a profitable supplement to a firm's product line. Furthermore, this market may serve as a basis for the establishment of new woodworking firms in some areas. Assuming that the average life of a completely wood table is 10 years, and that the demand for recreation increases at its expected rate, 20 to 25 thousand new tables are required in the six-State area each year. About 2.0 to 2.5 million board feet of wood is required to build these tables. An additional 0.5 to 1.0 million board feet is required annually for shelters, comfort stations, and benches.

Second, a description of the types of structures being used and a recognition of how purchases are made, who the purchasers are, and where they are located will enable potential and existing manufacturers and suppliers to better delineate markets.

Finally, increasing competition from wood substitutes suggests that firms should make greater efforts toward applying existing techniques and knowledge in the use of wood. Firms should also experiment with new designs and finishes applicable to picnic structures and equipment.

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SOME RECENT RESEARCH PAPERS OF THE NORTH CENTRAL FOREST EXPERIMENT STATION

Development of a Computer Method for Predicting Lumber Cutting Yields, by Daniel E. Dunmire and George H. Englerth. U.S.D.A. Forest Serv. Res. Pap. NC-15, 7 p., illus. 1967.

Hardwood Siding Performance, by Glenn A. Cooper. U.S.D.A. Forest Serv. Res. Pap NC-16, 11 p., illus., 1967.

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- Conducting forest and range research at over 75 locations ranging from Puerto Rico to Alaska to Hawaii.
- Participating with all State forestry agencies in cooperative programs to protect, improve, and wisely use our Country's 395 million acres of State, local, and private forest lands.
- Managing and protecting the 187-million acre National Forest System.

The Forest Service does this by encouraging use of the new knowledge that research scientists develop; by setting an example in managing, under sustained yield, the National Forests and Grasslands for multiple use purposes; and by cooperating with all States and with private citizens in their efforts to achieve better management, protection, and use of forest resources.

Traditionally, Forest Service people have been active members of the communities and towns in which they live and work. They strive to secure for all, continuous benefits from the Country's forest resources.

For more than 60 years, the Forest Service has been serving the Nation as a leading natural resource conservation agency.